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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/114,902	07/14/98	BREED	D AJI-192
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PM82/0412

EXAMINER

CULBRETH, L

ART UNIT

PAPER NUMBER

3611

DATE MAILED: 04/12/00

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/114,962

Applicant(s)

Breed

Examiner

Eric Culbreth

Group Art Unit

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☒ Responsive to communication(s) filed on Aug 17, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-29 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-29 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Information Disclosure Statement

1. The references not initialed on the Form PTO-1449 (Paper No. 2) were not considered by the examiner because they were not cited in the parent application 08/101,017 and copies were not included with the list of references.
2. The listing or citing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MEP. § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892 or initialed on form PTO-1449, they have not been considered.

This refers to the references listed on pages 1-3 of the specification.

Drawings

3. The drawings are objected to because:
 - a. Figure 5 is turned 90 degrees to the view from line 5-5 in Figure 4;
 - b. Reference numeral 160's lead line (see page 13, line 2) should touch the plate in Figure 1;

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- b. The shape of plate 160 in Figure 1 appears to be different from the shape of plate 160 in Figure 2, which is confusing as to the structure of the invention;
- c. Reference numeral 130 refers to two different parts of the invention in Figures 1-2 (see especially Figure 2, where 130 appears twice; apparently, one instance of 130 in Figure 2 should be 160);
- d. Reference numeral 636 (page 17, lines 6 and 21 and throughout the specification) is not on the drawings;
- e. Apparently, on page 17, line 30 "128" should be "129";
- f. Throughout the figures, the figures are misoriented (i.e., in Figure 13, where the air bag is for a side door, the bag actually points downward when it should point sideward). Correction is required.

Specification

- 4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
- 5. The disclosure is objected to because of the following informalities:
 - a. On page 2, line 7 the comma should be deleted;
 - b. On page 6, line 17, a comma should be inserted before "in";

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- c. Page 14, lines 7-8 disclose that member 101 is sealed, but page 14, lines 28-30 state that it has a hole 127; this is contradictory;
 - d. Page 18, lines 8-11 are an incomplete sentence and generally incomprehensible;
 - e. On page 18, line 24 "spherical" should be "hemi-spherical";
 - f. On page 19, line 30 "detain" should be "detail";
 - g. Regarding page 20, lines 3-6 it is not clear how part 990 in Figure 9 attaches housing 970 (in the Figure, it attaches member 902);
 - h. Page 20, lines 3-6 are an incomplete sentence;
 - I. Page 21, lines 29-30 are an incomplete sentence and hence not clear.
- Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. Claims 7-8, 13 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, there is no antecedent basis for "said electronic sensor", and "a" should precede "micro-machined".

In claim 8 there is no antecedent basis for "said electronic sensor".

"Not associated with a door" in claim 13 is a negative limitation, failing to positively define structure. Also, this would not appear to be accurate to the invention, as there is no disclosure of the

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panels not being associated with the door. It is not clear from the disclosure what the inner and outer panels are.

Regarding claim 29 there is no antecedent basis for "the maximum motion".

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-29 are rejected under the judicially created doctrine of double patenting over claims 1-4 of U. S. Patent No. 5,842,716 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a self-contained airbag system.

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Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MEP. § 804.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 6, 10 and 12-13 as well as 28-29 as best understood are rejected under 35 U.S.C. 102(b) as being anticipated by Breed (U.S. Patent 4,666,182, cited by applicant).

Breed discloses an airbag system that responds to an impact. The recitation that the system is "for" a vehicle is a mere functional statement of intended use, failing to patentably define distinguishing structural characteristics (i.e., the invention of claim 1 is really an airbag system, and the recitations of the relationship of the system to a vehicle carry no patentable weight). Hence, the recitation of a "side" system in line 1 is also a functional statement of intended use, and the recitation that the housing is arranged on the first side of the vehicle does not define structure since the preamble defines the invention as only the system and not including the vehicle. Housing 8 defines

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an interior space. Air bag 18 arranged in the interior space of the housing is expelled from the housing during inflation. Inflator housing 32 contains propellant 34, and sensor 10 has a housing 40 inside housing 32 and hence inside housing 8 (see Figure 1). Sensing mass 41 inside housing 40 moves relative to the sensor housing such that it initiates the inflator above a threshold value of movement (claim 1).

Regarding claim 6, mass 41 is a sensing mass constituting part of accelerometer 41, 39 as broadly and functionally recited (i.e., members 41 and 39 are used to measure negative acceleration as broadly and functionally recited).

Regarding claim 10, as seen in Figure 1, system housing 8 includes a mounting plate at 14 with a bottom wall with an aperture at 20 and flanged side walls inflator housing 32 arranged in aperture 20.

Regarding claims 12-13, as the invention does not include the vehicle and its parts in the preamble, and in view of the indefinite recitation of claim 13, Breed meets the positive limitations of the claims.

Breed meets claim 28 as per claim 1 above (i.e., the recitations regarding the vehicle and its relationship to the air bag system are a functional statement of intended use), and breeds sensor housing 40 is proximate (inside) the inflator housing and has a sensor mass 41 inside. Above a threshold that represents the maximum motion indicating an accident as functionally and indefinitely recited, the sensing mass initiates inflation (claim 29).

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Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed in view of Merhar.

Merhar discloses an electronic sensing system that determines a crash based on the movement of mass 43 for each piezoelectric crystal 10. It would have been obvious to one of ordinary skill at the time the invention was made to modify Breed's sensor in the inflator housing to include an electronic sensor such as taught by Merhar in order to guard against inadvertent activation (column 4, lines 23-25 of Merhar).

Regarding claim 2, in the combination Merhar's system monitors movement of the sensing mass as broadly disclosed and recited in that at column 4, lines 1-25, Merhar teaches that capacitor 16 prevents high amplitude, short duration voltages from setting off the bag (lines 13-25). This in effect is the capacitor of the system monitoring the duration of the signal from the piezoelectric crystals caused by movement of the sensing mass (i.e., monitoring to determine how long the signal lasts).

As noted above in the combination Merhar's sensor generates a signal across the capacitor representative of movement of the sensing mass (column 4, line 12 of Merhar)(claim 3).

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Regarding claim 4, again, in view of the broad disclosure, the capacitor 16 of Merhar “records” and monitors the signal to determine duration.

In regard to claim 14, in the combination Merhar teaches power across or from capacitor 16 supplying power to initiate deployment.

13. Claims 5-7, 9, and 11 as well as 16-19, 21-24 and 26-27 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed in view of Spies et al.

Spies et al discloses at column 3, lines 40-62 and column 4, lines 34-54 that a single chip or microprocessor 2 is inside sensor housing 1 and that it uses integrator and comparator means to determine when a signal generated by a mass indicates the bag should be inflated. It would have been obvious to one of ordinary skill at the time the invention was made to modify Breed to include a microprocessor in the sensor housing such as taught by Spies et al in order to set off the bag using critical parts that can be separated from other parts so as to not be a burden on the environment (column 1, lines 65 - column 2, line 6). As Spies et al’s chip 2 integrates a signal, it would monitor and record over time signals from the mass’s movement (claims 2-3). As broadly recited and disclosed, regarding claims 5 and 7 in the combination Spies et al’s system in comparing to determine if the signal is above a threshold would use some sort of algorithm that integrates or takes into account movement over time. Also regarding claim 7, how the sensing mass is made (i.e., micro-machining), is not patentably distinguishing in an article claim (see MEP. 2113).

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Regarding claim 9, Spies et al teaches a mass that would form part of an accelerometer as broadly disclosed, chip 2 would form an electronic circuit, and Spies et al further teaches primer 4 set off when a calculated value from the integrator means and comparator means exceeds a value.

In regard to claim 11, in the combination Spies et al teaches the sensor housing mounted directly to the inflator housing.

The features of claim 16 are discussed in explaining the combination above. In Breed the sensor housing is proximate (inside) the inflator housing (claim 17), mass 41 and tube 39 are an accelerometer as broadly disclosed and recited (claim 18), and how the sensing mass is made is not patentable in an article claim (claim 19).

Regarding claim 21, Spies et al in the combination teaches primer 4 set off by a value calculated or integrated over time.

Similarly, all the features of claims 22-24 and 26-27 are addressed in the rejections above.

14. Claims 8, 20 and 25 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed in view of Merhar and Spies et al.

It would have been obvious to one of ordinary skill at the time the invention was made to modify Breed to include a piezoelectric element generating a signal as taught by Merhar in order to ensure the bag inflates only when needed and to include a microprocessor as taught by Spies et al's chip 2 in order to use well known electrical circuit structure in the art. Spies et al teach determining

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mass movement over time and setting off the bag when a value is in excess of a comparator or algorithmic value.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spies et al in view of Breed and Midorikawa et al.

It would have been obvious to one of ordinary skill at the time the invention was made to modify Spies et al to include the sensor housing mounted inside the system housing as taught by Breed in order to make the system more compact and to include a diagnostic fault detection system as taught by Midorikawa et al in order to ensure the system works properly. In the combination the fault detecting circuits would be inside Spies et al's housing 1 in keeping with Spies et al's teaching of a single chip incorporated on the airbag system.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Breed U.S. Patent 5,842,716 is cited as the issued patent of the parent application.

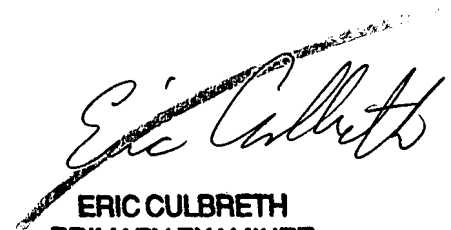
German Published Application 4,026,697 is the published foreign application of Spies et al.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Culbreth whose telephone number is (703) 308-0360.

ec

April 8, 2000


ERIC CULBRETH
PRIMARY EXAMINER
4/8/00